

**Radio Shack® engineering brings you the**

# TRS-80

MICROCOMPUTER SYSTEM

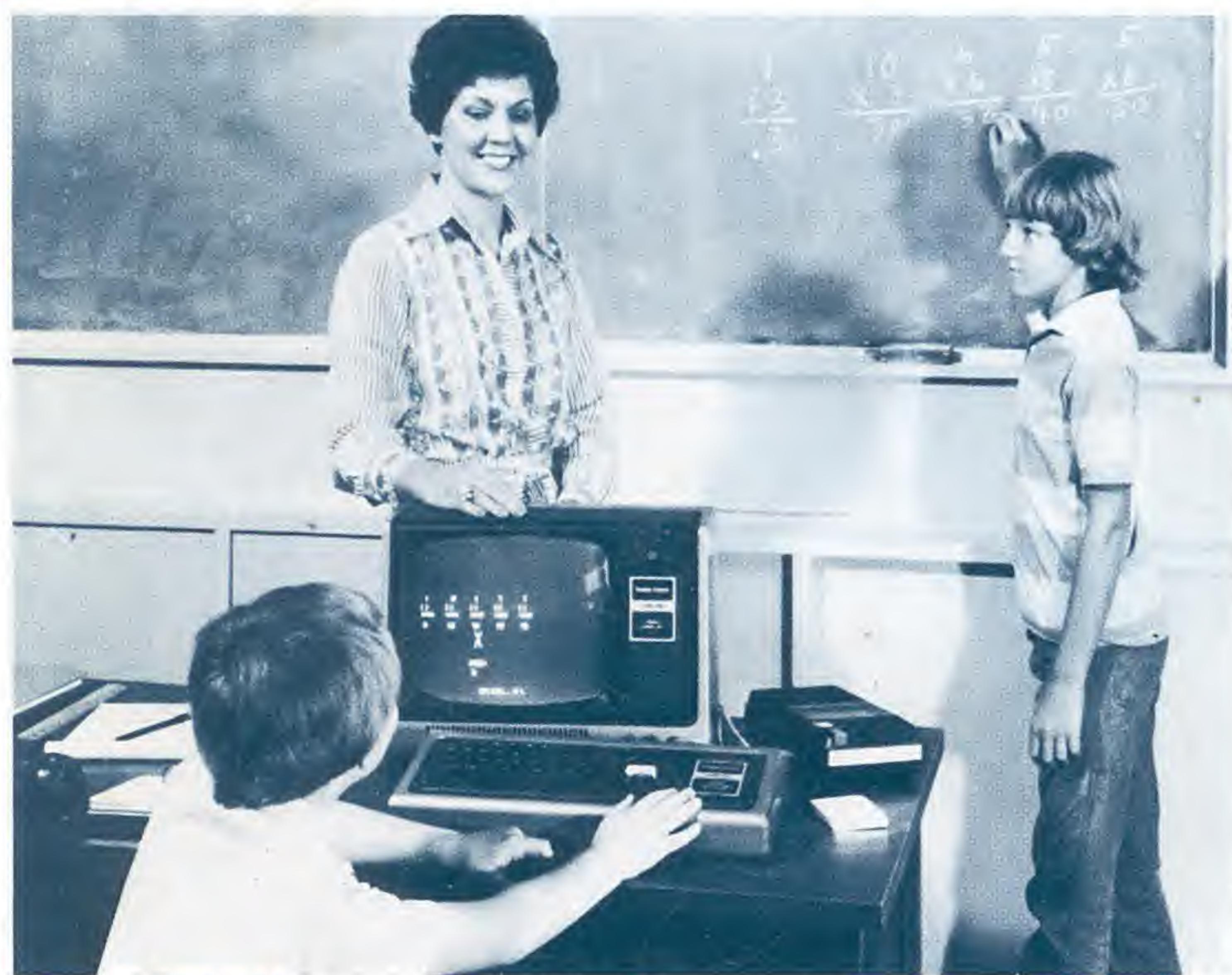
**The first complete low-cost microcomputer system . . .  
designed and manufactured in the USA by Radio Shack**



**BUSINESS** Significantly reduces the time spent on tedious paperwork and serves as a planning aid.



**HOME** Computes budgets and bank balances, stores data, entertains with exciting games.



**EDUCATION** Grades tests, keeps a progress report on each student. Helps teach math, spelling, more.



**LABORATORY** An economical, space-saving alternative to leasing an expensive time-sharing terminal.

# The TRS-80 System . . .



12" video display



Instruction/programming



Power supply



Computer with built-in keyboard



Cassette recorder

# The best computer value

## The system:

**Computer with built-in keyboard** Combined into one compact unit is the microcomputer circuitry and a 53-key professional-type keyboard input. The "brain" of the computer is a Z-80 microprocessor chip that serves as the central processing unit. This remarkable device, about the size of a watermelon seed, is one of the most advanced microprocessor chips available today.

The computer's memories are capable of being expanded internally and also externally using an accessory memory expansion module. Other accessories are easily connected to the TRS-80 microcomputer, such as tape recorders that permit mass data storage, disks for faster data retrieval, and printers for creating permanent, printed records of the computer output.

**12" video display** Designed especially for the TRS-80 system, this cathode-ray-tube monitor will display 64 characters per line. Because it is a separate unit, you can place it wherever is most convenient. Its high-resolution screen displays sharply focused easy-to-read characters. Controls for brightness and contrast adjust for best viewing under most lighting conditions.

**Instruction/programming manual** Written so you don't have to be an engineer or mathematician to understand it, this 300-page owner's manual explains everything necessary for using the TRS-80 — from plugging it in to programming.

**Cassette recorder** Essentially a standard tape recorder, this input/output device is controlled by the computer. Serving as a data recorder, it allows you to store your programs on compact cassette tapes. Then whenever you wish to use a certain program, whether it's one you previously recorded or one of Radio Shack's prepared programs, simply insert the cassette and begin computing. The cassette recorder allows virtually unlimited memory storage for software programs.

**Power supply** Important to any computer is a reliable source of pure DC power. This regulated supply converts standard 120 VAC house current into the stable direct current required. U.L. listed for electrical safety.

## Currently available programs:

<b>1</b>	<b>Game Package.</b> Play blackjack and backgammon with your TRS-80 system. With instructions.	Single Cassette .....	INCLUDED
<b>2</b>	<b>Payroll Program — 12 Employees.</b> With manual and sample instruction sheet.	Cassette Portfolio .....	19.95
<b>3</b>	<b>Education — Math 1.</b> Multiplication, addition and subtraction drills. With teacher's guide.	3-Cassette Portfolio .....	19.95
<b>4</b>	<b>Kitchen.</b> Menus, conversion tables, computer directory, message center.	Single Cassette .....	4.95
<b>5</b>	<b>Personal Finance.</b> With manual.	7-Cassette Portfolio .....	14.95

## Future applications of the versatile TRS-80

The TRS-80 will be able to handle a variety of applications to fit the needs of just about everyone. Some of these applications may require drawing upon our expanding selection of hardware or software. Businessmen will find the TRS-80 perfect for such functions as general ledgers, payrolls, accounts receivable and inventory control.

Teachers and parents will find the TRS-80 a valuable aid in additional math training, including long division and algebra. Besides programmed instructions, it can be used as an aid to learning music theory.

Any application involving mathematics can benefit from the advanced math functions of a scientific sub-routine package.

## What about expansion?

Because of the TRS-80's system design, you can "tailor make" a microcomputer system to your needs.

Planned expansion includes an extended Radio Shack Level-II BASIC, second cassette interface, an assembler/editor, a Disk-Operating-System and mini "floppy disk" storage medium, business and hobby printers for dot matrix-type typewritten output, an expansion unit for additional PC boards, modem, and serial and parallel I/O devices for remote access to your computer via telephone lines.

In addition, expansion possibilities include digital cassettes, enhanced graphics, music synthesizers, a 10-key pad and external device controllers that could operate security systems, indoor and outdoor lights, air conditioning, heating and even appliances.

**value available today!**

# TRS-80 component price list:

Complete Computer	
with Built-In Keyboard (less display) . . . . .	\$399.95
12" Video Display . . . . .	199.95
Realistic® CTR-41 Cassette Recorder . . . . .	<u>49.95</u>
<b>Separate Components Price . . . . .</b>	<b>\$649.85</b>

**Complete System Price 599<sup>95</sup>**

**Save 49.90 . . . buy the complete  
TRS-80 microcomputer system!**

Retail Prices May Vary at Individual Stores and Dealers.

# TRS-80 microcomputer specifications

## HARDWARE

**Microprocessor:** Advanced Z-80 8-bit processor.

**Keyboard:** Integrated ASCII, 53-key professional-type.

**Video Display:** Memory mapped, all graphics and alphanumerics controlled by BASIC commands. Cursor control. Automatic scrolling.

**Text:** 16 lines of 64 characters, also software selectable to 32 characters per line.

**Graphics:** 128 horizontal by 48 vertical. Graphics and text can be interspersed in any manner by software.

**Memory:** Includes 4K Read-Only-Memory (ROM), 4K dynamic Read/Write Memory (RAM). Internally expandable in the computer case to 12K ROM and 16K RAM. Total memory capability of 62K.

**Input/Output:** Computer-controlled cassette interface. Expansion port for additional memory and peripherals. Keyboard built-in.

**Electrical:** U.L. listed for 120 volts AC, 60 Hz.

**Dimensions:** 16½x8x3½".

## SOFTWARE

# Radio Shack Level-I BASIC in ROM.

**Level 1 Features:** standard BASIC statements; floating point arithmetic; numeric, array, and string variables; video graphics commands; cassette save and load commands

**Commands:** NEW, LIST, RUN, CONTINUE, REMARK, LET, FOR-NEXT-STEP, GOSUB-RETURN, STOP, END, GOTO, IF-THEN, INPUT, ON . . . GOTO, ON . . . GOSUB, PRINT, CSAVE, CLOAD, DATA, READ, RESTORE.

Functions: MEM, TAB, INT, ABS, RND, +, =, \*(multiply), /(divide), <, >, =

**Special Commands** (Including graphics): CLS (clear screen), SET (x,y), RESET (x,y), POINT (x,y), formatted PRINT, Array and string capability, Data storage and retrieval.

## OPTIONS

Video Display: 12" diagonal screen 16 $\frac{1}{2}$  x 13 $\frac{1}{2}$  x 12" UL listed

**GTR-41 Data Cassette:** Battery or AC operation, UL listed.

# With advantages you'll value now and in the future!

**Leadership in Electronics** Innovative technology is a tradition at Radio Shack, and the TRS-80 is a perfect example of this. We will continue to lead in the microcomputer age by providing FULL support in manuals, software programming, firmware and hardware.

**Availability** While others only talk of "personal computers of the future", ours is ready right now, today! Complete, tested, fully assembled! And you may order the TRS-80 at over 5500 Radio Shack stores and dealers nationwide!

**Almost Limitless Capability** It's impossible to say how many uses there are for the TRS-80, because new applications and uses come up every day. The more people are exposed to our microcomputer, the more its powerful impact will be felt.

## Here's what the TRS-80 system means to you

The new, low-cost TRS-80 Microcomputer System is for people who want to use a computer right now—without the delay, work and problems of building one. The TRS-80 is fully wired, tested, U.L. listed, ready to plug in and use!

**Learning can be fun.** Learning to operate the TRS-80 is not difficult because it uses BASIC, a simplified computer language. A nice way to familiarize yourself with the computer is by playing games with it! A pre-recorded games program is included with the system.

**You don't have to know a thing about computers.** The 300-page instruction/programming manual will take you from learning the basic fundamentals to designing complex programs with easy-to-follow instructions. Of course, you may just want to read the basic instructions and use our prepared software for programming. Remember, no previous knowledge of computers or programming is needed!

**What can the TRS-80 do for you?** In the home the uses for the microcomputer include balancing your checkbook, personal finance management and evaluation of investment portfolios. In the kitchen the TRS-80 may be used for storing recipes, keeping a running inventory of groceries, menu planning and converting recipes for larger or smaller servings. For the student in the home, the TRS-80 can be used as an aid to learning mathematics and music theory. And just for fun, it can be programmed to handle many challenging games.

**It's a perfect business computer.** Small businesses can now afford to computerize many areas of their operation. A few of the clerical functions to which the TRS-80 can be applied include financial accounting systems, payroll, inventory control and tax records. The time the TRS-80 saves in these areas can be used in more productive areas. For the retailer, the TRS-80 is a round-the-clock workhorse. By day, it can serve as an eye-catching advertisement, displaying a series of sales messages that can be changed daily. At night, simply change data-cassettes and you're ready to do your "paperwork".

**A "teacher's helper" with all the answers.** The TRS-80 can be such an extremely versatile educational tool that many school systems will find it to be an invaluable teacher's aid. Programmed teaching methods can be used to ask students questions on virtually any subject. And for students who require repetitive instruction and immediate evaluation of their progress, the TRS-80 frees the instructor's time for other classroom activities.

**Great for labs, too.** Laboratories can benefit from the TRS-80 by programming it to handle mathematical calculations. It's also ideal for mass data storage. Only minimum bench space needed.

**Designed and built in the USA.** Become a part of the future today with the Radio Shack TRS-80 Microcomputer System — quality design and excellent performance at a price you can afford.

# Questions, Anyone? Here Are the Answers!

**Q.** I'm a layman when it comes to electronics. Does the TRS-80 require any wiring or soldering at all?

**A.** No! Each component of this system is 100% assembled and tested.

**Q.** What will I be able to do with the TRS-80?

**A.** Applications of the TRS-80 are limited only by the imagination and ability to write programs. What's more, Radio Shack has prepared programs available today and will introduce more.

**Q.** I don't know how to write programs. Can I learn how, and is it difficult?

**A.** Yes, you can learn! The TRS-80 includes an easy-to-read instruction/programming manual. After reading the manual and a little practice, you should be able to write programs with little difficulty.

**Q.** What is "RAM"?

**A.** Random Access Memory is the segment of the computer's memory where programs or data can be stored. The contents of the memory may be changed to another program or another set of data at any time.

**Q.** How much RAM comes with the \$599.95 system?

**A.** The TRS-80 comes equipped with 4K of user RAM. With the 8K RAM option, 4K of RAM can be added for a total RAM capacity of 8K. With the 16K RAM option, 12K can be added for a total RAM capacity of 16K. Conversion is by replacement of integrated circuits.

**Q.** What is "ROM"?

**A.** Read-Only Memory is the segment of memory that permanently stores our BASIC interpreter. It retains the interpreter whether power is "on" or "off."

**Q.** How much ROM comes with the \$599.95 system?

**A.** The TRS-80 comes equipped with 4K ROM. Radio Shack Level-I BASIC is stored in this ROM. Radio Shack Level-II BASIC in ROM can be substituted for the 4K ROM when available.

**Q.** I would find a printer to be useful for business purposes. Is one available?

**A.** In fact, Radio Shack will make two printers available. A professional-type printer will best suit the needs of the businessman. Another printer will be smaller in size and perfect for low-cost applications.



**Q.** The Radio Shack prepared payroll program will handle 12 employees. How can I process more?

**A.** With the 8K RAM option you can handle 100 employees and, with the 16K RAM option, up to 300-employee payrolls. And with the addition of the Radio Shack "floppy-disk" storage medium, you can handle even more.

**Q.** How much memory is accessible by the TRS-80?

**A.** 62K. Why not 64K? Because 2K RAM is used by the system.

**Q.** What type of bus does the TRS-80 incorporate? Is it compatible with the S-100 bus?

**A.** The TRS-80 can be adapted to interface with the S-100 bus. Radio Shack will have an interchange box available for this purpose.

**Q.** When will accessory, or "peripheral" equipment become available?

**A.** Planned expansion devices should be available sometime in January, 1978.

**Q.** What about service?

**A.** Service can be obtained through Radio Shack stores—we back and service what we sell!

## Order your microcomputer at your nearby Radio Shack.

The TRS-80 Microcomputer System can be ordered at any Radio Shack Store or Dealer with a deposit of \$100. The TRS-80 will be stocked in selected stores as supply permits. Watch your newspaper for announcements of demonstrations and stocking stores.

**Radio Shack®**  
A TANDY CORPORATION COMPANY

